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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,175	04/09/2001	Maurizio Lazzerini	34748/GM/lp	7483

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EXAMINER

FULLER, ERIC B

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 06/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/828,175

Applicant(s)

LAZZERINI, MAURIZIO

Examiner

Eric B Fuller

Art Unit

1762

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

It appears from the marked-up version of the amended claims included in paper 7, filed by applicant on May 13, 2002, that the applicant intended on amending claims 9 and 10, such that they overcome the previous 35 USC 112 rejections. However, no clean copy of these claims have been provided nor any instructions to amend these claims. Therefore, claims 9 and 10 read as originally filed and have not been amended by paper 7. Additionally, no traversal was made on the validity of the rejections based on 35 USC 112.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 9, "type" renders the claim vague and indefinite.

As to claim 10, "preferably" renders the claim vague and infinite. It is also noted that the word "frequency" should be "wavelength", according to the marked-up version provided.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Hutton (US 5,959,768).

Harbaugh teaches a security thread for currency that is made of a plastic thread, such as polyester (column 7, lines 50-57), coated with a metallic layer, such as aluminum (column 7, line 60). The reference further teaches to use laser etching to remove preset areas in order to produce visible alphanumeric characters and/or machine detectible codes (column 8, line 1; column 7, lines 15-50). The reference is silent to how laser etching is used to remove the preset regions.

However, Hutton teaches a process of etching aluminum from a clear, plastic substrate (column 4, lines 60-65; column 5, lines 5-15). This is performed using a Nd:YAG laser with a wavelength between 850 nm to 2 microns (column 4, line 67; column 6, lines 33-35). From figure 6, it is shown that the laser passes through the plastic substrate before reaching the aluminum coating. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the etching process taught by Hutton to perform the laser etching taught by Harbaugh. By doing so, one would have a reasonable expectation for success.

Harbaugh teaches the limitations to claims 7 and 8 in figures 3, 4, and 6.

As to claim 12, Harbaugh teaches that the security thread is embedded into the paper (column 8, line 8). To do this before or after the laser-etching step would have been obvious to those skilled in the art with the reasonable expectation of achieving similar results.

Claims 1, 2, 7, 8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Zientek (US 6,372,394 B1).

The teachings of Harbaugh have been discussed above. Along with how the laser-etching process is performed, Harbaugh also fails to teach using ink as the coating layer.

However, Zientek teaches a method of laser etching an ink coating off of a polymeric substrate (abstract). This is used in order to produce markings for security documents. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use ink as the coating in Harbaugh for producing the alphanumeric codes that need only to be detectable visually. By doing so, a less expensive material is being used as the coating, thus resulting in a less expensive process.

Additionally, Zientek teaches that the wavelength of the laser is between .5 microns to about 20 microns, which is inclusive of the applicant's range. It is also taught that the laser may be used to etch off ink from one side of the substrate, or both sides simultaneously (column 2, lines 50-60; figures 1 and 2). It would have been obvious to one skilled in the art that to have the laser directly hit the ink or to have the laser go

through the substrate first would result in similar process. To use either method would have obvious.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Zientek (US 6,372,394 B1) as applied to claim 1 above, and further in view of Hutton (US 5,959,768).

Harbaugh and Zientek are used for their combined teaching of claim 1. However, both references fail to teach what type of laser should be used to perform the etching. However, Hutton teaches that Nd:YAG lasers are used for etching because glass and plastic substrates are transparent to the 1.06 um wavelength (column 6, lines 35-40). Therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize a Nd:YAG laser in the process taught by Harbaugh and Zienteck. By doing so that substrate is transparent to the laser, as is desired by Zeinteck in column 2, line 67).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Hutton (US 5,959,768) as applied to claim 1 above, and further in view of Mantegazza (EP 0 310 707 A2) and Meyer et al. (US 5,858,474).

Harbaugh and Hutton are used for their combined teaching of claim 1. However, both references fail to teach that the coating layer is a magnetic layer. However, Mantegazza teaches that security threads made of polyester, with magnetic iron oxide codes inscribed, may be used in anti-forgery documents. The advantage of using the

magnetic layer is that it is not optically detectable, thus making it difficult to reproduce by forgery (column 1, lines 49-52). Additionally, Meyer, as shown in the previous office action, shows that magnetic coatings are capable of being etched by laser. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use magnetic coatings, such as that taught by Mantegazza, for producing the machine detectable codes taught in the process of Harbaugh and Hutton. By doing so, the code is not optically detectable and forgery is deterred.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harbaugh (US 5,535,871) in view of Hutton (US 5,959,768), or Harbaugh (US 5,535,871) in view of Zientek (US 6,372,394 B1), as applied to claim 1 above, and further in view of Leenders (US 5,478,695).

None of the references up this point teach that the coating may further be coated with a second backing layer. However, Leenders teaches an optional covering layer to be applied to a metal coating that is to be laser etched off of a resin substrate. This covering layer is to protect the metal from mechanical wear (column 5, lines 1-5). This covering layer reads on a second backing layer applied to the other face of the coating layer. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the covering layer of Leenders in the process taught by Harbaugh and Hutton or Harbaugh and Zientek. By doing so, mechanical wear is prevented.

***Response to Arguments***

Applicant argues that none of the references of the previous Office action teach that the laser is applied through the polyester backing layer prior to hitting the coating, as the claims have now been amended to read. Examiner agrees. The rejections of the previous Office Action have accordingly been withdrawn and the rejections of the current Office Action have been established. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new grounds of rejection.

As the new rejections have shown, Hutton teaches to radiate the coating through the backing layer. It would have been obvious to combine this teaching with Harbaugh, as Harbaugh simply teaches to use a laser etching without being specific to how this is done. Any suitable laser-etching process would be deemed proper, including that taught by Hutton.

Additionally, Zienteck teaches to use ink in order to provide optically detectable codes. To use ink as the coating in Harbaugh would have been obvious for the regions that need only be optically detectable, as ink is less expensive than aluminum. From figures 1 and 2 of Zeinteck, to hit the coating directly with the laser, or to go through the substrate first, would have been equally obvious.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (703) 308-6544. The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached at (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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A handwritten signature in black ink, appearing to be "EBF", written over the printed name "EBF".

EBF

June 20, 2002

A handwritten signature in black ink, appearing to be "Michael Barr", written over the printed name "MICHAEL BARR".  
**MICHAEL BARR**  
**PRIMARY EXAMINER**